AMENDMENTS TO THE CLAIMS

In the Claims

The following is a marked-up version of the claims with the language that is underlined ("___") being added and the language that contains strikethrough ("—") being deleted:

1. (Original) A method for scheduling packet in a wireless telecommunication system, comprising

dividing user packet queues to be transmitted into user packet queues with lost packet and user packet queues without lost packet;

for the user packet queues with lost packet, if the real time lost ratio of packet for the user excesses a predetermined lost ratio threshold of packet, terminating the connection to the user;

if the real time lost ratio of packet for the user does not excess the predetermined lost ratio threshold of packet, scheduling the user packet queues according to the volume of the lost ratio of packet;

for the user packet queues without lost packet, scheduling according to packet lengths, channel quality states, time delays and time delay jitters.

2. (Original) The method of scheduling packet in a wireless telecommunication of claim 1, wherein said step of dividing user packet queues to be transmitted into the user packet queues with lost packet and the user packet queues without lost packet further includes the steps of:

obtaining related information, required for scheduling, including the channel quality states, the lengths of all packets to be transmitted, maximum delay thresholds for all packets, delay waiting time for all packets, the real time lost ratios of packets for all users, real time lost ratio thresholds of packets for all users, time delay jitters for all packets and maximum time delay jitter thresholds for all packets;

judging whether the real time lost ratio of packet for each of users is more than 0, if yes, categorizing the user packet into the user packet queues with lost packet; if not, categorizing the user packet into the user packet queues without lost packet.

3. (Original) The method of scheduling packet in wireless telecommunication of claim 1, wherein said scheduling according to the packet length, the channel state, the time delay and the time delay jitter is scheduling with priority according to a principal of least $(W_{\max,m} - W_{i,j})(Jitter_{\max,n} - Jitter_{i,j})l_{i,j}C_{i,j}$, wherein $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, $Jitter_{i,j}$ represents the time delay jitter of packet, $Jitter_{\max,n}$ represents the maximum time delay jitter threshold of packet, $W_{\max,m}$ represents the maximum delay threshold of service, the above *i* represents one user index, *j* represents a scheduling period, a value of *j* is an integer not less than one, *n* corresponds to the type of services with limitation of maximum time delay jitter, *m* corresponds to the type of services with limitation of maximum delay.

4. (Original) The method of scheduling packet in wireless telecommunication of claim 1, wherein said scheduling according to the packet length, the channel quality state, the time delay and the time delay jitter is scheduled according to a principal of least $(Jitter_{\max,n} - Jitter_{i,j})l_{i,j}C_{i,j}/W_{i,j}$, wherein $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, $Jitter_{i,j}$ represents the time delay jitter of packet, $Jitter_{\max,n}$ represents the maximum packet time delay jitter threshold of packet, the above *i* represents one user index, *j* represents a scheduling period, a value of *j* is an integer not less than one, *n* corresponds to the type of services with limitation of maximum time delay jitter threshold.

5. (Currently amended) The method of scheduling packet in wireless telecommunication of ~~any one of~~ claim 1 ~~to 4~~, wherein said channel quality state is a reciprocal of a maximum possible transmission rate in a wireless channel.

6. (Currently amended) The method of scheduling packet in wireless telecommunication of ~~any one of~~ claim 1 ~~to 4~~, wherein said channel quality state is a reciprocal of a measured ratio of signal to noise in a channel.

7. (Currently amended) The method of scheduling packet in wireless telecommunication of ~~any one of~~ claim 1 ~~to 4~~, wherein said channel quality state is path loss of transmission.

8. (Currently amended) The method of scheduling packet in wireless telecommunication of ~~any one of~~ claim 1 ~~to 4~~, wherein said time delay jitter of packet $Jitter_{i,j}$ is the following:

$Jitter_{i,j} = 0$, when $j = 1$,

$Jitter_{i,j} = \alpha\left|\left(W_{i,j} + l_{i,j}C_{i,j}\right) - \left(W_{i,j-1} + l_{i,j-1}C_{i,j-1}\right)\right| + (1-\alpha)Jitter_{i,j-1}$, when $j \in [2,+\infty)$,

in which, $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, the above i represents the user index, j represents a scheduling period, a value of j is an integer not less than one, α is in a range of 0 to 1, that is, $\alpha \in (0,1)$.

9. (Currently amended) The method of scheduling packet in wireless telecommunication of ~~any one of~~ claim 1 ~~to 4~~, wherein said time delay jitter of packet $Jitter_{i,j}$ is the following:

$Jitter_{i,j} = 0$, when $j = 1$,

$Jitter_{i,j} = \alpha\left|\left(W_{i,j}\right) - \left(W_{i,j-1}\right)\right| + (1-\alpha)Jitter_{i,j-1}$, when $j \in [2,+\infty)$,

wherein, $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, the above i represents the user index, j represents a scheduling period, a value of j is an integer not less than one, α is in a range of 0 to 1, that is, $\alpha \in (0,1)$.

10. (Currently Amended) A method of scheduling packet in wireless telecommunication system, comprising:

reading packet data to be transmitted into buffers of a queue, and dividing the packet data into a packet with time delay jitter and time delay limitation, a packet only with time delay limitation, and a packet without time delay limitation, with priority levels from high to low;

for the packet with time delay jitter and time delay limitation, scheduling the packet data according to the priority levels by using a method for scheduling packet of ~~any one of claims~~ claim 1 ~~to 9~~;

then, judging whether a code channel assigned in a scheduling period of a transmission time interval or an overall power used excesses a predetermined upper limit,

if yes, completing the scheduling period of one transmission time interval for the packet,

if not, re-reading new data and continuing scheduling the packet service in the scheduling period of the transmission time interval;

re-reading new data to start scheduling the packet service in a scheduling period of the following transmission time interval.

11. (Original) The method of scheduling packet in wireless telecommunication system of claim 10, wherein said step of dividing the packet data further includes steps of:

judging whether there is a packet service sensitive to time delay in the packet data in the queue, if no, it indicating that the packet service in the queue is a packet service without time delay limitation, a lowest priority level;

if yes, further judging whether there is a packet service sensitive to time delay jitter in the packet service sensitive to time delay, if yes, the packet service sensitive to time delay jitter being a packet with time delay jitter and time delay limitation, a highest priority level;

if no, the packet service sensitive to time delay jitter being the packet only with time delay limitation, a moderate priority level.

12. (Currently amended) The method of scheduling packet in wireless telecommunication system of claim 10 ~~to11~~, wherein the packet with only time delay limitation is scheduled by a method of EDF algorithm, that is, a method of selecting a user packet most approximating to the maximum time delay threshold and providing priority services.

13. (Currently amended) The method of scheduling packet in wireless telecommunication system of claim 10 ~~to 11~~, wherein the packet without time delay limitation is scheduled by a wireless weight fair queue scheduling method.

14. (New) The method of scheduling packet in wireless telecommunication of claim 2, wherein said channel quality state is a reciprocal of a maximum possible transmission rate in a wireless channel.

15. (New) The method of scheduling packet in wireless telecommunication of claim 3, wherein said channel quality state is a reciprocal of a maximum possible transmission rate in a wireless channel.

16. (New) The method of scheduling packet in wireless telecommunication of claim 4, wherein said channel quality state is a reciprocal of a maximum possible transmission rate in a wireless channel.

17. (New) The method of scheduling packet in wireless telecommunication of claim 2, wherein said channel quality state is a reciprocal of a measured ratio of signal to noise in a channel.

18. (New) The method of scheduling packet in wireless telecommunication of claim 3, wherein said channel quality state is a reciprocal of a measured ratio of signal to noise in a channel.

19. (New) The method of scheduling packet in wireless telecommunication of claim 4, wherein said channel quality state is a reciprocal of a measured ratio of signal to noise in a channel.

20. (New) The method of scheduling packet in wireless telecommunication of claim 2, wherein said channel quality state is path loss of transmission.

21. (New) The method of scheduling packet in wireless telecommunication of claim 3, wherein said channel quality state is path loss of transmission.

22. (New) The method of scheduling packet in wireless telecommunication of claim 4, wherein said channel quality state is path loss of transmission.

23. (New) The method of scheduling packet in wireless telecommunication of claim 2, wherein said time delay jitter of packet $Jitter_{i,j}$ is the following:

$Jitter_{i,j} = 0$, when $j = 1$,

$Jitter_{i,j} = \alpha\left|\left(W_{i,j} + l_{i,j}C_{i,j}\right) - \left(W_{i,j-1} + l_{i,j-1}C_{i,j-1}\right)\right| + (1-\alpha)Jitter_{i,j-1}$, when $j \in [2,+\infty)$,

in which, $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, the above i represents the user index, j represents a scheduling period, a value of j is an integer not less than one, α is in a range of 0 to 1, that is, $\alpha \in (0,1)$.

24. (New) The method of scheduling packet in wireless telecommunication of claim 3, wherein said time delay jitter of packet $Jitter_{i,j}$ is the following:

$Jitter_{i,j} = 0$, when $j = 1$,

$Jitter_{i,j} = \alpha\left|\left(W_{i,j} + l_{i,j}C_{i,j}\right) - \left(W_{i,j-1} + l_{i,j-1}C_{i,j-1}\right)\right| + (1-\alpha)Jitter_{i,j-1}$, when $j \in [2,+\infty)$,

in which, $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, the above i represents the user index, j represents a scheduling period, a value of j is an integer not less than one, α is in a range of 0 to 1, that is, $\alpha \in (0,1)$.

25. (New) The method of scheduling packet in wireless telecommunication of claim 4, wherein said time delay jitter of packet $Jitter_{i,j}$ is the following:

$Jitter_{i,j} = 0$, when $j = 1$,

$Jitter_{i,j} = \alpha\left|\left(W_{i,j} + l_{i,j}C_{i,j}\right) - \left(W_{i,j-1} + l_{i,j-1}C_{i,j-1}\right)\right| + (1-\alpha)Jitter_{i,j-1}$, when $j \in [2,+\infty)$,

in which, $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, the above i represents the user index, j represents a scheduling period, a value of j is an integer not less than one, α is in a range of 0 to 1, that is, $\alpha \in (0,1)$.

26. (New) The method of scheduling packet in wireless telecommunication of claim 2, wherein said time delay jitter of packet $Jitter_{i,j}$ is the following:

$Jitter_{i,j} = 0$, when $j = 1$,

$Jitter_{i,j} = \alpha\left|\left(W_{i,j}\right) - \left(W_{i,j-1}\right)\right| + (1-\alpha) Jitter_{i,j-1}$, when $j \in [2, +\infty)$,

wherein, $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, the above i represents the user index, j represents a scheduling period, a value of j is an integer not less than one, α is in a range of 0 to 1, that is, $\alpha \in (0,1)$.

27. (New) The method of scheduling packet in wireless telecommunication of claim 3, wherein said time delay jitter of packet $Jitter_{i,j}$ is the following:

$Jitter_{i,j} = 0$, when $j = 1$,

$Jitter_{i,j} = \alpha\left|\left(W_{i,j}\right) - \left(W_{i,j-1}\right)\right| + (1-\alpha) Jitter_{i,j-1}$, when $j \in [2, +\infty)$,

wherein, $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, the above i represents the user index, j represents a scheduling period, a value of j is an integer not less than one, α is in a range of 0 to 1, that is, $\alpha \in (0,1)$.

28. (New) The method of scheduling packet in wireless telecommunication of claim 4, wherein said time delay jitter of packet $Jitter_{i,j}$ is the following:

$Jitter_{i,j} = 0$, when $j = 1$,

$Jitter_{i,j} = \alpha\left|\left(W_{i,j}\right) - \left(W_{i,j-1}\right)\right| + (1-\alpha) Jitter_{i,j-1}$, when $j \in [2, +\infty)$,

wherein, $l_{i,j}$ represents the packet length, $C_{i,j}$ represents the channel quality state, $W_{i,j}$ represents the delay waiting time of packet, the above i represents the user index, j represents a scheduling period, a value of j is an integer not less than one, α is in a range of 0 to 1, that is, $\alpha \in (0,1)$.

29. (New) The method of scheduling packet in wireless telecommunication system of claim 11, wherein the packet with only time delay limitation is scheduled by a method of EDF algorithm, that is, a method of selecting a user packet most approximating to the maximum time delay threshold and providing priority services.

30. (New) The method of scheduling packet in wireless telecommunication system of claim 11, wherein the packet without time delay limitation is scheduled by a wireless weight fair queue scheduling method.